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Senate Standing Committees on Economics
Residential Electrification
Submitted online

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Re: Submission to the Senate Economics References Committee on Residential Electrification

I welcome this consultation and strongly support the acceleration of residential electrification as a means of reducing household energy bills; improving health outcomes; reducing emissions; enhancing national security by accelerating the reduction in dependence on imported liquid fuels.

For owner occupiers, the business case for residential electrification is compelling. I commend to the inquiry the work of Saul Griffiths and his team at Rewiring Australia, who have extensively quantified the deflationary combination of rooftop solar, electrification of gas appliances and replacement of internal combustion vehicles with EVs (or better still in an urban context, modal switch facilitated by reprioritising transport budgets towards well-conceived active and public transport options).

Communities will also benefit from better health, lower health costs, quieter streets, and a positive contribution towards Australia's climate commitments. Electrification of buildings and vehicles will also free Australia from the yoke of exposure to international energy commodity prices and the energy security risk of importing most of our liquid fuels.

Understanding the Electrification Landscape

As the MP of an inner urban electorate, I am very conscious that a carefully stratified approach is needed when developing policies relating to housing in general, and electrification in particular. I have identified the following key groups:

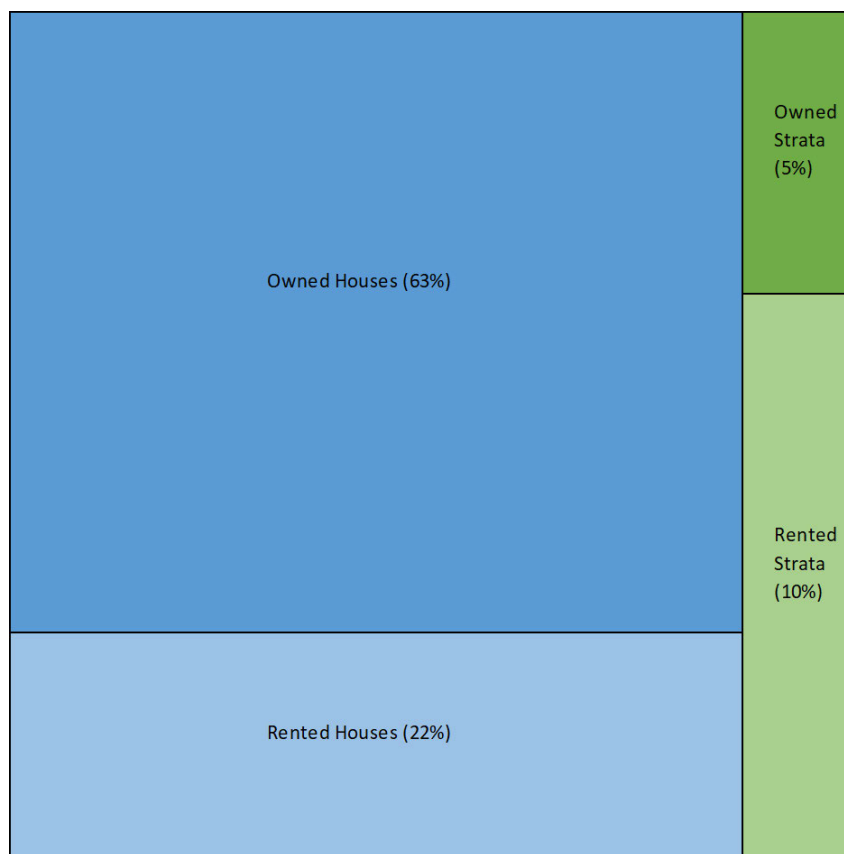
- Owner occupiers vs Renters
 - Around a third of Australian households are renters and two thirds owner occupiers.
 - Renters (tenants) typically have no ability to change fixed appliances such as gas-based heating, hot water systems and cooking facilities.
 - There is a clear "split incentive" issue, where landlords own the building and fixed chattels but tenants pay the energy bills.
 - It is critical for both equity and emissions reduction reasons that renters can share the economic benefits of electrification.

- Houses vs Strata (apartments)
 - Technically, the simplest dwelling type to electrify is owner occupied houses. However, doing so relies on millions of households being incentivised (or regulated) to do something that is currently neither easy or intuitive, and which involves substantial upfront costs, despite the attractive payoff over time.
 - While apartments comprise around 15% of Australian housing stock, in our major cities this can be significantly higher. In my electorate of North Sydney, for example, 59% of dwellings are apartments.
 - Despite demand from consumers (investors, tenants and owner occupiers) for sustainable homes in strata buildings, the apartment development and retrofit industry has been slow to respond. Residential buildings are long-term assets in all communities, providing foundational support for the health and well-being of all who live in and around them for decades after their completion. Yet the current legislative framework for strata property development, allows for short-term financial incentives to drive the quality of much of that development.
 - “Spatial analysis of sustainable apartment development and major upgrade projects in metropolitan and regional areas of NSW and Victoria indicates that less than 5 percent of building projects exceed minimum standards for sustainability.”¹
 - There is an opportunity for the federal government to help close this gap between demand and supply by supporting the development of a process to incorporate sustainability into property valuation practice at all points in the life-cycle of residential buildings, from design to end of life.²
 - Around two thirds of apartments are rented, which as I expand on below, is a particularly important consideration when forming policy.
 - As well as a distinction between owner occupied vs rented apartments, a critical stakeholder group is owners’ corporations. Owners Corporations bear the responsibility of meeting statutory obligations for the building and managing the concerns of all owners, both resident and non-resident for decades. They are unpaid, and yet responsible for managing complex retrofits, upgrades and defect remediation. It is vital that all future policies take full account of the unique needs of this group and are no longer “strata blind”. It is essential that incentives and/or regulation for electrification incorporate the unique constraints of this group since electrification of apartments almost always involves modifications to common infrastructure.
 - Rooftop solar penetration is an example of how Strata homes have been left behind by policies in the past. Australian rooftop penetration is at 37% nationally, yet in the Sydney metropolitan area, [just 1.6% of 16,680 strata schemes have rooftop solar](#).
 - In terms of electrification there is also a distinction within strata between:
 - Smaller apartment buildings that have independent heating, cooling and hot water systems for each unit.
 - Larger apartment buildings that have centralised “HVAC” and hot water plant serving the entire complex.

¹ Easthope, H., Palmer, J., Sharam, A., Nethercote, M., Pignatta, G. and Crommelin, L. (2023) *Delivering sustainable apartment housing: new build and retrofit*, AHURI Final Report No. 400, Australian Housing and Urban Research Institute Limited, Melbourne, <https://www.ahuri.edu.au/research/final-reports/400>, doi: 10.18408/ahuri7128201, p2.

² Ibid, p3

Nationally, based on ABS data, housing is distributed as follows:



Renters

What the figure above highlights to me, is that most units in any apartment building will very likely be rented at some point during their lifetime. Therefore, State policies mandating minimum rental efficiency and health standards that are designed with an electrification outcome in mind, in conjunction with enabling amendments to strata legislation, would be a massive boost to electrifying dense inner urban areas.

I am encouraged by the success of initiatives such as [New Zealand's Healthy Homes](#) minimum rental standards program. While it currently falls short of a clear requirement to electrify, it appears to have significantly raised rental efficiency standards and delivered tangible health outcomes (from illnesses associated with excessive cold or heat and poor indoor air quality due to mandated upgrades including: improved insulation, draught stopping and ventilation to reduce mould etc.). Landlords have had ample opportunity to comply or sell prior to the requirements being made mandatory. My understanding is that rental increases related to landlords' costs of complying with the scheme have not been excessive in the context of broader economic factors.

Requiring electrification for new homes and apartments is a great start, and I have been encouraged by recent moves by the ACT and Victorian governments. We have a generational opportunity to future proof our homes and buildings, both to accelerate the transition to net zero emissions energy, and to improve our climate resilience: homes designed for the harsh

Australian conditions becoming ever harsher, ready to protect their occupants from the worsening heatwaves, extreme rain, bushfire smoke and other conditions that will be with us for the decades to come.

Low-income Households

Low-income households are another critical constituency. OECD data (2021) suggests 12.6% of Australians are living in poverty; the Australian Council of Social Services (2022) found 13.4% living below 50% of median income. In terms of electrification of housing, the following distinctions are important to effectively target policies for low-income households:

- Renters (including those in social and affordable housing);
- Owner occupiers; and
- Investors who might be considered “asset rich but cash poor.” For example, according to one source, around 17% of retirees own investment properties. Some amongst this cohort may have limited other sources of income.

What we can’t countenance, as a society, is to wind up in a situation where those groups who can least afford it are left on a gas network, and remain reliant on petrol/diesel fueled cars, while gas network, refinery and service station operators enter the so-called “death spiral” (where fixed costs are shared amongst a decreasing pool of customers). Federal and state governments must implement policies that protect these vulnerable constituencies.

Mindful of the extreme urgency with which Australia’s emissions must reach net zero, I firmly believe the design of incentives must be matched with sensible regulation to kick start and accelerate the process of electrification. Use of regulation and clear market signalling would significantly reduce the level of public investment, because complementary incentives could be well targeted and means tested. With the right regulation, major public investment might be limited to upgrades to social housing, and supports to help low-income households in private housing to electrify (including the example above of retiree landlords). I welcomed the government’s investment in social housing efficiency and electrification announced in the May 2023 budget as an important first step.

Incentives must be mindful of the circumstances of intended recipients. For example, tax credits are likely to be ineffective if the intended beneficiaries pay no or minimal tax anyway. We are yet to see details of how the \$1 billion announced in the Federal Budget for the CEFC to distribute via commercial banks for home electrification will translate into concessional loan products. Whether they will provide adequate incentive for homeowners and landlords remains to be seen.

I think there is a clear case to be made for financing arrangements that can be presented to lower-income homeowners (and renters) in a way that requires no outlay up front, and which is paid for with basically no marginal increase in the occupier’s monthly costs (i.e. principal and interest payments for the investment in electrification and related initiatives such as solar, are covered by the overall decrease in energy bills). Energy retailers may be best placed to offer such programs, but there would need to be oversight to avoid consumers being gouged with excessive costs or charges.

I'm also aware of research claiming significant capital gains well in excess of the costs of adding solar or other sustainability features to a home. Subject to validation, this could provide an incentive to landlords to sweeten the costs of complying with minimum rental standards. Alternatively, discounts to capital gains tax could be considered for landlords who have electrified their properties. Clearly, there are many policy options available.

Health as a Driver for Efficient Electrified Homes

As has been widely researched and publicised, gas stoves in homes are responsible for about 12% of childhood asthma. Where are the public health warnings that children living in a home with a gas stove have a [42% increased risk of having current asthma, and a 24% greater chance of being diagnosed with asthma at some point in life](#)? This is a wholly avoidable health tragedy and a significant public health expense.

The extent to which homes protect occupants from extreme heat (and cold) is also critical in avoiding [premature mortality and a range of other health conditions](#). Electrifying transport and reducing the primacy of private vehicles in favour of spending on active and public transport will deliver a range of health benefits including reduced urban air and noise pollution, plus reduced obesity (and a range of related conditions) due to increasing uptake of active transport. In designing and targeting electrification policies, the reduced burden on public health budgets should be a primary consideration.

We Need an Electrification Ecosystem

Many of my constituents have reported that electrification is difficult and expensive, doubly so for those in apartments, even the owner occupiers. Some don't know where to start; some have struck issues dealing with tradespeople who try to talk them out of electrifying their gas appliances; some have suffered at the hands of shonky operators who have delivered cheap products and low quality installations.

I have established an online [resource for my constituents](#) cataloguing the electrification steps and available federal, state and local government incentives relevant to my electorate, but even so, the process is far from simple.

In addition to sensible incentives and regulation, I think it is critical that we establish or repurpose an agency that can act as an "office of electrification", working closely with state and local governments, appliance manufacturers, trade associations, TAFEs, certification organisations, distribution network service providers (DNSPs), gas network operators, strata managers, owners' corporations, landlords, investors, rental advocates, health departments and the public.

From clear and consistent messaging (that electrification is the efficient, clean, cost-effective future and that gas networks serving buildings will eventually be retired), to determining phase out plans for gas networks and orchestration of deployment, it's clear to me that electrification will require a massive mobilisation that will only succeed if it is well coordinated. It's also clear that electrification can create tens of thousands of jobs over the next several decades and become an exciting economic opportunity with export potential.

I suggest that current renewable energy and efficiency certificate schemes at state and federal level require better coordination and oversight to ensure that they are not exploited (as currently seems to be the case, based on the reports my office receives) by the same types of fly-by-night operators that rorted the infamous Pink Batts scheme. We're dealing with electricity, so products need to be compliant with Australian standards, suitable with our conditions, and the work needs to be performed safely, by licensed tradespeople, with adequate compliance and inspection checks.

As I noted in Parliament with regards to the latest amendments to the Greenhouse & Energy Minimum Standards scheme, I would also like to see energy star ratings apply as soon as possible to equipment including induction cook tops and hot water heat pump systems, and ensure that labelling systems allow efficiency *and* emissions comparability with gas appliances. It is extremely confusing for consumers that government allows a completely separate, industry-administered star rating system for gas appliances.

Electrification Will Take Decades

There are about five million gas connected homes in Australia and 20 million internal combustion cars. A gas connected home might have several non-electrified appliances (typically heating, hot water and cooking), many of which run for 10-25 years. Most homeowners only consider replacing these appliances if renovating, or, more frequently, if the old one breaks. Without clear direction, any gas appliance sold today will very likely still be in use in 2035. Some may still be in use in 2050, when Australia is currently legislated to achieve net zero emissions.

Electrified homes (and vehicles) benefit from as much rooftop solar as a roof can typically accommodate, and two thirds of Australia's rooftops currently have no panels. There is a vast amount of work for the likes of plumbers, electricians, appliance manufacturers, solar installers, insulation and draught-proofing trades, innovative finance providers, alongside work modifying electrical distribution networks to cater for extra loads (including EV charging, home and community batteries) and safely decommissioning the gas network.

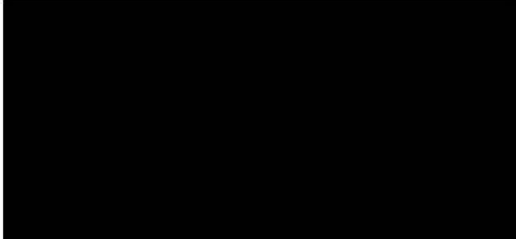
Even assuming the last gas appliance is turned off in 2050, and assuming a national ban on new gas connections, the "required run rate" is already *many hundreds of dwellings per day that should be switched off gas*. Each year we continue building new gas connected homes increases the challenge. We must get cracking without further delay.

What Will It Cost if We Fail to Decarbonise?

While there is a compelling economic case to households and public health budgets for electrification of homes and vehicles, along with the broader economic benefits noted above, there is also an enormous cost associated with failing to decarbonise quickly. The [\\$1 trillion in expected damages to 2050](#) from climate fuelled disasters noted in the National Climate Risk Assessment Methodology will be chicken feed compared to what awaits us in the second half of the century and beyond, if we fail to meet this collective challenge.

I appreciate that Australia can't solve climate change alone, but we must lead by genuine example and exhort other countries to step up their own efforts. As such, I think it is critical that the economic costs of failing to decarbonise be factored into all policy development.

Sincerely,



Kylea Tink MP
Independent Federal Member for North Sydney